



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,183	03/06/2002	Yoshiyuki Tanaka	Q68816	6333
23373	7590	04/15/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			GUSHI, ROSS N	
			ART UNIT	PAPER NUMBER
			2833	

DATE MAILED: 04/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/091,183	TANAKA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ross N. Gushi	2833	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☐ Claim(s) 5 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in —

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a);

Claims 1, 3, 4, are rejected under 35 U.S.C. 102(e) as being anticipated by Kondo et al. ("Kondo"). Per claim 1, Kondo discloses a holding structure of a terminal (66, 22) and a substrate 7, wherein a soldering portion of said terminal is inserted into a connecting hole of said substrate, and a land portion provided on said substrate and said soldering portion 6c of said terminal are held by soldering 47 in a state that said terminal is set upright, said holding structure comprising: a terminal plate 5 for guiding said soldering portion into said connecting hole to a position opposing said substrate, forming a predetermined clearance; a positioning hole (see figures 4 and 5) for holding an intermediate portion of said terminal (45, at 40a) provided in said terminal plate; and a retaining portion 45 retained in said positioning hole of said terminal plate is provided in said intermediate portion of said terminal.

Per claim 3, Kondo discloses a holding structure of a terminal and a substrate, comprising a plurality of soldering portions formed to be bifurcated (see figures 4, at 22c) from a soldering proximal portion of said terminal thereby dividing said soldering proximal portion into small portions; wherein said soldering portions are held on a land portion of said substrate by soldering.

Claims 1 and 2, are rejected under 35 U.S.C. 102(e) as being anticipated by Boucheron et al. ("Boucheron"). Per claim 1, Boucheron discloses a holding structure of a terminal (4, 7) and a substrate 1, wherein a soldering portion of said terminal is inserted into a connecting hole of said substrate, and a land portion provided on said substrate and said soldering portion of said terminal are held by soldering (see col. 4, lines 1-5) in a state that said terminal is set upright, said holding structure comprising: a terminal plate 15 for guiding said soldering portion into said connecting hole to a position opposing said substrate, forming a predetermined clearance (see figure 6; a positioning hole (see figure 6) for holding an intermediate portion of said terminal provided in said terminal plate; and a retaining portion (see e.g. figure 1) retained in said positioning hole of said terminal plate is provided in said intermediate portion of said terminal.

Per claim 2, said positioning hole of said terminal plate is formed on a terminal press-fitting portion 18 projecting upwardly from an upper surface of said terminal plate (see figure 6).

Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Quillet et al. ("Quillet"). Per claim 6, Quillet discloses a heat dissipating structure for a terminal 3,

wherein one end of said terminal is connectable to a heat generating component and another end of said terminal is soldered in an upright state (where vertical is for purposes of analysis in the direction of the mating end of the connector, parallel to the plane of the board) to a substrate, heat dissipating structure comprising: a wide flat portion 31 formed by being bent at an intermediate portion of said terminal; a heat insulating plate (see figure 1, the plate structure forming reservoirs 7, against which the bowed portion 31 abuts as shown in figures 2, 3) disposed at a position opposing said substrate with a predetermined clearance, wherein said flat portion of said terminal is made capable of freely abutting against a terminal pressing portion provided on said heat insulating plate.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo as in claim 3. Regarding claim 4, to the extent that Kondo does not state that the connecting holes are round, at the time of the invention, it would have been obvious to have the holes be round as is well known in the art. The suggestion for having the holes be round would be that that is the inherent shape of holes formed by drilling during the typical manufacturing process of the board.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

Claims 5 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claim 5, the prior art does not suggest the structure as claimed, including the combination of all the claimed elements, the combination including that an indented portion is formed in a peripheral side of a central portion of said land portion located between said terminal inserting holes. Regarding claim 7, the prior art does not suggest the structure as claimed, including the combination of all the claimed elements, the combination including the resin plate cover as claimed.

***Conclusion***

Applicant's amendments did not necessitate the new grounds of rejection and this Office action is therefore not final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross Gushi whose telephone number is (571) 272-2005. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Paula A. Bradley, can be reached at 571-272-2800 extension 33. The phone number for the Group's facsimile is (703) 872-9306.

**ROSS GUSHI**  
**PRIMARY EXAMINER**

